



UNITED STATES PATENT AND TRADEMARK OFFICE

A
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,383	07/03/2001	Mika Ryukawa	33452	6841

116 7590 07/22/2005

PEARNE & GORDON LLP
1801 EAST 9TH STREET
SUITE 1200
CLEVELAND, OH 44114-3108

EXAMINER

CONNOLLY, MARK A

ART UNIT	PAPER NUMBER
----------	--------------

2115

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

87

Office Action Summary

Application No.

09/806,383

Applicant(s)

RYUKAWA ET AL.

Examiner

Mark Connolly

Art Unit

2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 and 19-23 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 and 18 is/are allowed.
- 6) ☒ Claim(s) 13-16 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9 May 2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 13-18 and 24 have been presented for examination.
2. Applicant's arguments with respect to claim 13-18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 13 recites the limitation "not-performing the process execution of *the request*" on line 14. There is insufficient antecedent basis for this limitation in the claim. In particular, claim 13 comprises "at least one of a power-supply ON request and a power-supply OFF request." Therefore, when more than one request present, it is not clear as to which request should not be performed.

For examination purposes, "the request" has been interpreted as "the power supply OFF request."

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2115

6. Claims 13 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Holtzhammer¹ and further in view of Lenny US Pat No 6467054.

7. Referring to claim 13, the AAPA teaches the virtual computer system for executing/controlling a plurality of operating systems substantially including:

- a. a request receiving means for receiving at least one of a power-supply-ON request and a power-supply OFF request to one or more of the hardware devices from one of the plurality of operating systems [page 4 line 3 – page 6 line 2 and page 6 lines 14-25].
- b. a power-supply switching/controlling means for controlling process execution of the power-supply ON request or the power-supply OFF request [page 4 line 3 – page 6 line 2 and page 6 lines 14-25].

The AAPA does not explicitly teach not performing the process execution of the request when another operating system is using one or more of the hardware devices. In summary, the AAPA does not teach not performing a power-supply ON or OFF request if the device is in use with another operating system. Holtzhammer explicitly teaches not performing a power transition in a device while the device is busy [col. 3 line 57 – col. 4 line 3]. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the AAPA to include the teachings of Holtzhammer because Holtzhammer explicitly teaches that if the device is busy, it may not be safe to initiate a power transition in a device. Because the AAPA-Holtzhammer system comprises multiple operating systems controlling a hardware device, it is interpreted that if the hardware device is busy with one operating system another operating

¹ As cited in the previous Office Action

Art Unit: 2115

system request to change the power state of the device would be ignored in order to prevent an unsafe power transition.

Although the AAPA-Holtzhammer system teaches either performing or not performing the power-supply OFF request based on whether or not at least one device is busy, it is not explicitly taught how the system identifies a busy device. Lenny explicitly teaches setting a busy flag to indicate to the system that a device is busy [col. 1 lines 37-45 and col. 2 lines 60-61]. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the teachings of Lenny into the AAPA-Holtzhammer system because it would provide a means to determine whether or not any of the devices are busy thus indicating that the system should not transition into a different power state.

8. Referring to claim 24, this is rejected on the same basis as set forth hereinabove.

9. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA, Holtzhammer and Lenny as applied to claims 13 and 24 above, and further in view of Reuter et al [Reuter] US Pat No 6226717.

10. Referring to claim 14, this is rejected on the same basis as set forth hereinabove. The busy flags are interpreted as stored power-saving mode information because the flags determine whether or not a transition to a different power mode is allowable as argued above.

Although, the AAPA-Holtzhammer-Lenny system substantially teaches the claimed virtual computer, it is not explicitly taught that the system waits to set a power mode until the computer system is switched to the requesting operating system. Rather, it appears that the AAPA-Holtzhammer-Lenny system immediately executes new requests and does not provide

Art Unit: 2115

any exclusivity with the interactions between the hardware devices and operating systems.

Reuter explicitly teaches providing exclusive access to a shared resource [col. 1 lines 26-39 and col. 2 lines 9-19]. Although, Reuter teaches providing exclusivity between a plurality of processors interacting with a plurality of shared resources, it would have been obvious to one of ordinary skill in the art that the same principles taught in Reuter could be applied to a system comprising a plurality of operating systems interacting with a plurality of shared resources because both systems deal coordinating interactions between the shared resources and a plurality of different sources, those sources being multiple processors and multiple operating systems. Furthermore, it would have been obvious to include the teachings of Reuter into the AAPA-Holtzhammer-Lenny system because it would provide a means to prevent one operating system from interfering with another operating systems interactions with one or more of the shared resources. In addition, because Reuter teaches locking the shared resource, it should be apparent that while a shared resource is locked, no other operating systems would have the ability to interact with that resource until the shared resource is released and the system switches control over to the other operating system. This is interpreted also as preventing another operating system from issuing power control commands to set the shared resource into a power saving mode while that shared resource is locked and wherein the other operating system must wait until the shared resource is released and the system switched control over to the other operating system before the other operating system is able to issue power control commands to the shared resource.

11. Referring to claim 15, the AAPA teaches the power-saving mode switching/controlling means can set/change the power-saving mode based on the power-saving mode information

Art Unit: 2115

during the execution of the operating system [page 4 line 3 – page 6 line 2 and page 6 lines 14-25].

12. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA, Holtzhammer, Lenny and Reuter as applied to claims 13-15 and 24 above, and further in view of Provino² et al [Provino] US Pat No 6601081.

13. Referring to claim 16, although the AAPA teaches a power-saving mode switching/controlling means to set/change a power-saving mode, it is not explicitly taught that the switching/controlling means to set/change a power-saving mode is based on priorities. In summary, the AAPA does not teach scheduling based on a prioritized schedule. Rather, the AAPA suggests sharing execution time wherein the scheduling allows all operating systems to execute equally. Provino explicitly teaches that other than executing equally, execution can be scheduled based on priority [col. 3 line 65 – col. 4 line 12]. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the AAPA to schedule the operating systems based on priority because it would allow the virtual computer system to execute tasks which are more important more frequently.

Allowable Subject Matter

10. Claims 17 and 18 are allowed.

Conclusion

² As cited in the previous Office Action

Art Unit: 2115

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Connolly whose telephone number is (571) 272-3666. The examiner can normally be reached on M-F 8AM-5PM (except every first Friday).

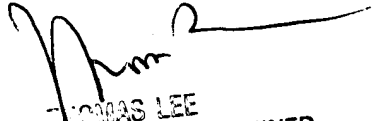
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C. Lee can be reached on (571) 272-3667. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2115

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Connolly
Examiner
Art Unit 2115

mc
July 14, 2005



THOMAS LEE
SUPERVISOR PATENT EXAMINER
TECHNOLOGY CENTER 2100